

## EAST Search History

|     |       |  |   |    |    |                  |
|-----|-------|--|---|----|----|------------------|
| S79 | 2993  | (switch\$4 adj control\$4) same (directly same senses (first near2 voltage) same (second near2 voltage))         | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON | 2007/07/13 15:37 |
| S80 | 100   | S78 and @ay<="2002"  | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO      | OR | ON | 2007/07/13 15:55 |
| S81 | 0     | (switch\$4 adj controller\$1) same directly same sense\$4 same (first near2 voltage) same (second near2 voltage) | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON | 2007/07/13 15:54 |
| S82 | 301   | (switch\$4 adj controller\$1) and directly and sense\$4 and (first near2 voltage) and (second near2 voltage)     | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON | 2007/07/13 15:54 |
| S83 | 155   | S82 and @ay<="2002"  | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO      | OR | ON | 2007/07/13 15:58 |
| S84 | 33057 | circuit and transistor and inductor and capacitor and power  | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO      | OR | ON | 2007/07/13 15:57 |
| S85 | 67    | S82 and S84 and @ay<="2002"  | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO      | OR | ON | 2007/07/13 15:58 |
| S86 | 3073  | ((330/270-271 or 330/251 or 330/254 or 330/51).ccls.)  | US-PGPUB;<br>USPAT;<br>USOCR              | OR | ON | 2007/07/20 15:43 |
| S87 | 1715  | ((330/10 or 330/207).ccls.)  | US-PGPUB;<br>USPAT;<br>USOCR              | OR | ON | 2007/07/20 15:42 |
| S88 | 754   | ((257/335).ccls.)  | US-PGPUB;<br>USPAT;<br>USOCR              | OR | ON | 2007/07/20 15:43 |
| S89 | 801   | ((320/128).ccls.)  | US-PGPUB;<br>USPAT;<br>USOCR              | OR | ON | 2007/07/20 15:43 |
| S90 | 903   | ((381/94.1 or 381/94.5 or 381/81 or 381/28).ccls.)   | US-PGPUB;<br>USPAT;<br>USOCR              | OR | ON | 2007/07/20 15:45 |
| S91 | 1455  | ((381/120 or 381/123 or 381/106).ccls.)  | US-PGPUB;<br>USPAT;<br>USOCR              | OR | ON | 2007/07/20 15:45 |

## EAST Search History

|     |        |   |   |    |     |                  |
|-----|--------|---|---|----|-----|------------------|
| S67 | 2      | S66 and S50   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON  | 2007/01/12 11:20 |
| S68 | 7      | S66 and S51   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON  | 2007/01/12 11:26 |
| S69 | 7819   | (first near\$2 supply near\$2 voltage) same (second near\$2 supply near\$2 voltage) same (switch\$4 or select\$3 or choos\$3) same (first near2 (control\$4 near signal\$1)) same ((threshold or parameter) near\$2 voltage\$1) | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON  | 2007/01/12 14:53 |
| S70 | 4000   | ((330/270-271 or 330/251 or 330/254 or 330/51).cccls.)  | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO      | OR | ON  | 2007/07/20 15:40 |
| S71 | 32     | S69 and S70 and @ay<="2002"   | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO      | OR | ON  | 2007/01/12 14:54 |
| S72 | 1      | ("6169449").PN.   | USPAT;<br>USOCR                           | OR | OFF | 2007/01/12 17:26 |
| S73 | 4      | "6169449"   | USPAT                                     | OR | ON  | 2007/01/12 17:26 |
| S74 | 1      | ("6597240").PN.   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | OFF | 2007/07/13 15:26 |
| S75 | 13     | ("4337438"   "4673889"   "5077539"   "5617058"   "5805020"   "5963086"   "6005316"   "6034565"   "6118336"   "6297693"   "6313697").PN. OR ("6597240").URPN.  | US-PGPUB;<br>USPAT;<br>USOCR              | OR | ON  | 2007/07/13 15:30 |
| S76 | 65778  | (switch\$4 adj controller\$1) same directly same senses (first near2 voltage) same (second near voltage)  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON  | 2007/07/13 15:34 |
| S77 | 100001 | (switch\$4 adj controller\$1) same directly same senses (first near2 voltage) same (second near2 voltage)   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON  | 2007/07/13 15:53 |
| S78 | 215    | (switch\$4 adj controller\$1) same (directly same senses (first near2 voltage) same (second near2 voltage))   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON  | 2007/07/13 15:37 |

## EAST Search History

|     |      |   |   |    |    |                  |
|-----|------|---|---|----|----|------------------|
| S92 | 2980 | (first near\$2 supply near\$2 voltage) and (second near\$2 supply near\$2 voltage) and (switch\$4 or select\$3 or choos\$3) and (first near2 (control\$4 near signal\$1)) and (switch\$3 near2 controller\$1) | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON | 2007/07/20 15:46 |
| S93 | 6    | S86 and S92 and @ay<="2002"   | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO      | OR | ON | 2007/07/20 15:49 |
| S94 | 2    | S87 and S92 and @ay<="2002"   | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO      | OR | ON | 2007/07/20 15:49 |
| S95 | 0    | S88 and S92 and @ay<="2002"   | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO      | OR | ON | 2007/07/20 15:49 |
| S96 | 5    | S89 and S92 and @ay<="2002"   | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO      | OR | ON | 2007/07/20 15:50 |
| S97 | 3    | S90 and S92 and @ay<="2002"   | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO      | OR | ON | 2007/07/20 15:52 |
| S98 | 3    | S91 and S92 and @ay<="2002"   | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO      | OR | ON | 2007/07/20 15:52 |

## EAST Search History

| Ref # | Hits | Search Query  | DBs                                  | Default Operator | Plurals | Time Stamp       |
|-------|------|---|--------------------------------------|------------------|---------|------------------|
| S1    | 6    | ((("TAE HA") near2 (RYOO)).INV.   | US-PGPUB;<br>USPAT;<br>USOCR         | OR               | ON      | 2007/07/13 15:26 |
| S2    | 51   | ((("5359241") or ("6204701") or ("4623803") or ("5565807") or ("4521700") or ("5003578") or ("5249298") or ("5459412") or ("5590343") or ("5808460") or ("6066177") or ("6140864") or ("6175249") or ("6215342") or ("6215342") or ("6242985") or ("4395774") or ("4543499") or ("4605871") or ("4608582") or ("4950620") or ("5013980") or ("5021716") or ("5268649") or ("5300895") or ("5341042") or ("5432482") or ("5455732") or ("5561300") or ("5587672") or ("5635859") or ("5731969") or ("5748463") or ("5767844") or ("5818480") or ("5859548") or ("5955874") or ("6104173") or ("6137311") or ("6150845") or ("6163199") or ("4253035") or ("4330723") or ("4334256") or ("4357579") or ("4415839") or ("4430585") or ("4438485") or ("4458162") or ("4460264")).PN. | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO | OR               | OFF     | 2006/12/29 12:10 |
| S3    | 4    | ((("4370623") or ("5070308") or ("5361041") or ("5537081")).PN.   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO | OR               | OFF     | 2006/12/29 12:11 |
| S4    | 8    | ("3772606").PN. OR ("4370623").URPN.  | US-PGPUB;<br>USPAT;<br>USOCR         | OR               | ON      | 2006/12/29 12:15 |
| S5    | 5    | ("4370623"   "5070308"   "5361041").PN. OR ("5537081").URPN.  | US-PGPUB;<br>USPAT;<br>USOCR         | OR               | ON      | 2006/12/29 12:19 |
| S6    | 18   | ("4442409"   "4471322"   "4480230"   "4800339"   "5166636").PN. OR ("5361041").URPN.  | US-PGPUB;<br>USPAT;<br>USOCR         | OR               | ON      | 2006/12/29 12:21 |
| S7    | 8    | ("3772606").PN. OR ("4370623").URPN.  | US-PGPUB;<br>USPAT;<br>USOCR         | OR               | ON      | 2006/12/29 12:34 |

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|     |     |  |                                      |    |    |                  |
|-----|-----|--|--------------------------------------|----|----|------------------|
| S8  | 173 | circuit same (pop adj noise) same transistor same inductor same capacitor same power supply same (switch or select\$4) same gate same controller same threshold same voltage\$1                | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 15:13 |
| S9  | 18  | circuit same (pop adj noise) same transistor same inductor same capacitor same power supply same (switch or select\$4) same gate same controller same threshold same voltage\$1 same filter\$1 | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 14:12 |
| S10 | 107 | S8 and @ay<="2002"   | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2007/07/13 15:38 |
| S11 | 11  | S9 and @ay<="2002"   | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2007/07/20 15:47 |
| S12 | 1   | transistor same filter same inductor same capacitor same (second adj switch) same ( switch\$4 adj controller) same threshold   | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 14:52 |
| S13 | 67  | transistor and filter and inductor and capacitor and (second adj switch) and ( switch\$4 adj controller) and threshold   | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2007/01/10 15:50 |
| S14 | 46  | S13 and @ay<="2002"  | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 15:04 |
| S15 | 536 | ((381/94.1 or 381/94.5).ccls.)   | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 15:22 |
| S16 | 46  | S14 and @ay<="2002"  | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 15:08 |
| S17 | 1   | circuit same (pop adj noise) same transistor same inductor same capacitor same (switch or select\$4) same controller same threshold same voltage\$1  | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 15:05 |
| S18 | 1   | circuit and (pop adj noise) and transistor and inductor and capacitor and (switch or select\$4) and controller and threshold and voltage\$1  | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 15:06 |

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|     |      |  |                                      |    |    |                  |
|-----|------|--|--------------------------------------|----|----|------------------|
| S19 | 1    | circuit and (pop adj noise) and transistor and inductor and capacitor and (switch or select\$4) and controller and threshold | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 15:06 |
| S20 | 3    | circuit and (pop adj noise) and transistor and (switch or select\$4) and controller and threshold                            | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 15:08 |
| S21 | 305  | circuit and (pop adj noise)  | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 15:08 |
| S22 | 7    | S15 and S21 and @ay<="2002"  | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 15:11 |
| S23 | 361  | ((381/81 or 381/28).ccls.)   | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 15:12 |
| S24 | 6    | S15 and S23 and @ay<="2002"  | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 15:18 |
| S25 | 1194 | ((381/120 or 381/123).ccls.)   | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2007/01/12 10:25 |
| S26 | 1    | circuit same (pop adj noise) same transistor same inductor same capacitor same power   | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 15:13 |
| S27 | 6    | circuit and (pop adj noise) and transistor and inductor and capacitor and power  | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2007/07/13 15:57 |
| S28 | 463  | ((381/7 or 381/71.1).ccls.)  | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 15:18 |
| S29 | 0    | S13 and S23 and @ay<="2002"  | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 15:19 |
| S30 | 0    | S27 and S23 and @ay<="2002"  | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 15:19 |

## EAST Search History

|     |        |   |                                      |    |    |                  |
|-----|--------|---|--------------------------------------|----|----|------------------|
| S31 | 1      | S21 and S23 and @ay<="2002"                                   | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 15:21 |
| S32 | 7      | S21 and S15 and @ay<="2002"                                   | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 15:21 |
| S33 | 0      | S21 and S28 and @ay<="2002"                                   | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 15:22 |
| S34 | 2150   | ((330/251 or 330/254).ccls.)                                  | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 15:25 |
| S35 | 0      | S8 and S34 and @ay<="2002"                                    | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 15:23 |
| S36 | 0      | S13 and S34 and @ay<="2002"                                   | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 15:23 |
| S37 | 6      | S21 and S34 and @ay<="2002"                                   | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 15:25 |
| S38 | 274    | ((330/270-271).ccls.)   | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 15:25 |
| S39 | 1      | S21 and S38 and @ay<="2002"                                   | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2006/12/29 15:25 |
| S40 | 1      | circuit and (pop adj noise) and (clip\$4) and (push adj pull) | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2007/01/10 15:47 |
| S41 | 439053 | (pop adj noise) or (clip\$4) or (push adj pull)               | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2007/01/10 15:47 |
| S42 | 3998   | ((330/270-271 or 330/251 or 330/254 or 330/51).ccls.)         | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO | OR | ON | 2007/01/12 10:24 |

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|     |       |  |   |    |     |                  |
|-----|-------|--|---|----|-----|------------------|
| S43 | 368   | S41 and S42 and @ay<="2002"  | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO      | OR | ON  | 2007/01/10 15:51 |
| S44 | 3049  | transistor and filter and inductor and capacitor and (switch\$4 or select\$4) and controller and threshold | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO      | OR | ON  | 2007/01/10 15:51 |
| S45 | 13    | S41 and S42 and S44 and @ay<="2002"  | US-PGPUB;<br>USPAT;<br>USOCR;<br>JPO      | OR | ON  | 2007/01/10 15:51 |
| S46 | 1     | ("7151970").PN.  | USPAT;<br>USOCR                           | OR | OFF | 2007/01/11 11:22 |
| S47 | 1     | ("4142072").PN.  | USPAT;<br>USOCR                           | OR | OFF | 2007/01/12 09:17 |
| S48 | 4090  | ((330/270-271 or 330/251 or 330/254 or 330/51).ccls.)  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON  | 2007/01/12 14:54 |
| S49 | 1225  | ((381/120 or 381/123).ccls.)   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON  | 2007/01/12 10:25 |
| S50 | 43435 | ((("381"/\$).ccls.)  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON  | 2007/01/12 10:25 |
| S51 | 52611 | ((("330"/\$).ccls.)  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON  | 2007/01/12 10:28 |
| S52 | 0     | diode same fourth adj resistor same transister   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON  | 2007/01/12 10:32 |
| S53 | 1040  | diode same (fourth adj resistor) same transistor   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON  | 2007/01/12 10:32 |
| S54 | 1     | S49 and S53 and @ay<="2002"  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON  | 2007/01/12 11:19 |
| S55 | 6     | S48 and S53 and @ay<="2002"  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON  | 2007/01/12 11:12 |



## EAST Search History

|     |         |   |   |    |    |                  |
|-----|---------|---|---|----|----|------------------|
| S56 | 3       | S50 and S53 and @ay<="2002"   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON | 2007/01/12 10:40 |
| S57 | 58      | S51 and S53 and @ay<="2002"   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON | 2007/01/12 11:09 |
| S58 | 7026163 | (first near\$2 supply near\$2 voltage) same (second near\$2 supply near\$2 voltage)   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON | 2007/01/12 11:10 |
| S59 | 2004172 | (first near\$2 supply near\$2 voltage) same (second near\$2 supply near\$2 voltage) same (switch\$4 or select\$3 or choos\$3)   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON | 2007/01/12 11:13 |
| S60 | 1516    | S48 and S59 and @ay<="2002"   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON | 2007/01/12 11:12 |
| S61 | 166019  | (first near\$2 supply near\$2 voltage) same (second near\$2 supply near\$2 voltage) same (switch\$4 or select\$3 or choos\$3) same (control\$4 near signal\$1)  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON | 2007/01/12 11:14 |
| S62 | 21963   | (first near\$2 supply near\$2 voltage) same (second near\$2 supply near\$2 voltage) same (switch\$4 or select\$3 or choos\$3) same (first near2 (control\$4 near signal\$1))                                      | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON | 2007/01/12 14:51 |
| S63 | 434     | (first near\$2 supply near\$2 voltage) same (second near\$2 supply near\$2 voltage) same (switch\$4 or select\$3 or choos\$3) same (first near2 (control\$4 near signal\$1)) same (switch\$3 near2 controller\$1) | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON | 2007/07/20 15:46 |
| S64 | 4       | S48 and S63   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON | 2007/01/12 11:23 |
| S65 | 0       | S49 and S63   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON | 2007/01/12 11:19 |
| S66 | 276     | S63 and @ay<="2002"   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO | OR | ON | 2007/01/12 11:19 |